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<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/064,581	BALCH ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	John D. Lee	2874	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the election submitted on November 4, 2004.
2. ☒ The allowed claim(s) is/are 1-32 and 41-48.
3. ☒ The drawings filed on 29 July 2002 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

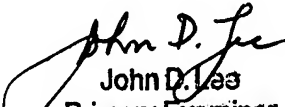
Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |  |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date <u>0802,0504</u> | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                    |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material                                | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|   | 9. <input type="checkbox"/> Other _____.   |

  
 John D. Lee  
 Primary Examiner

Applicant's request to withdraw the holding of abandonment in this application has been received. A reply to the first Office action was timely received by the U.S. Patent & Trademark Office on November 4, 2004. That reply has now been placed of record in the application file. Accordingly, the Notice Of Abandonment mailed on May 23, 2005, is hereby vacated and the holding of abandonment in this application is withdrawn.

In the response submitted on November 4, 2004, election was made without traverse to prosecute the invention of Group I, claims 1-32 and 41-48. Claims 33-40 and 49-56 are withdrawn from further consideration by the Examiner, 37 CFR § 1.142(b), as being drawn to a non-elected invention.

#### **EXAMINER'S AMENDMENT**

This application is in condition for allowance except for the presence of claims 33-40 and 49-56 to inventions non-elected without traverse. Accordingly, claims 33-40 and 49-56 have been cancelled.

#### **EXAMINER'S STATEMENT OF REASONS FOR ALLOWANCE**

The following is an Examiner's Statement of Reasons for Allowance: The prior art fails to disclose or suggest a method for adaptively fabricating a waveguide which comprises the three specific steps of: a) measuring the misplacement of a photonic device relative to a substrate; b) generating computer readable instructions for using a plurality of graphics primitives to form the waveguide; and c) photocomposing the

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waveguide on the substrate in accordance with the computer readable instructions. Although various computer controlled waveguide formation processes are known in the art, none discloses this specific sequence of steps. The prior art also fails to disclose or suggest a method for fabricating a waveguide which comprises the steps of: selecting a reticle comprising a plurality of graphics primitives (at least one of which comprises a tapered end); and using computer readable instructions for photocomposing the waveguide through selected graphics primitives of the reticle, wherein the instructions ensure that (for at least some pairs of adjacent photocomposed waveguide segments) at least one tapered end of one waveguide segment overlaps an adjacent end of the other waveguide segment. Again, although various computer controlled waveguide formation processes are known in the art, none discloses this claimed sequence of steps. Finally, the prior art fails to disclose or suggest a computer-readable medium storing computer commands for using a plurality of graphics primitives to form a waveguide, wherein the computer commands comprise the specific elements (a) through (e) set forth in claim 27. Claims 1-32 and 41-48 in this application are therefore allowed.

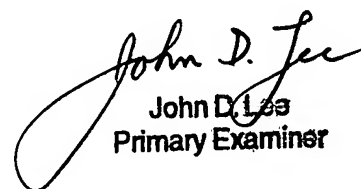
Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### **DISCUSSION OF THE CITED PRIOR ART**

Examples of waveguide formation through photocomposing techniques using reticles, and not necessarily relying on computer command and control, can be seen in the cited U.S. Patents to Park et al and King. Examples of computer controlled waveguide formation processes can be seen in the cited U.S. Patents to Ticknor, Zhong et al, and Calkins et al, and in the cited U.S. Patent Application Publication to Pan et al.

All of the documents cited by applicant in the Information Disclosure Statements filed on August 5, 2002, and May 13, 2004, have also been considered and made of record by the Examiner. Note the attached initialed copy of forms PTO-1449. These documents are also representative of prior art waveguide formation processes and products, and do not disclose or suggest the features of applicant's allowable claims discussed above.

Any inquiry concerning the merits of this communication should be directed to Examiner John D. Lee at telephone number (571) 272-2351. The Examiner's normal work schedule is Tuesday through Friday, 6:30 AM to 5:00 PM. Any inquiry of a general or clerical nature (i.e. a request for a missing form or paper, etc.) should be directed to the Technology Center 2800 receptionist at telephone number (571) 272-1562, to the technical support staff supervisor (Team 8) at telephone number (571) 272-1564, or to the Technology Center 2800 Customer Service Office at telephone number (571) 272-1626.

  
John D. Lee  
Primary Examiner